



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,044	11/20/2003	William J. Borland	EL0509USNA	9307
23906	7590	11/16/2005		
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805				
			EXAMINER NGUYEN, DONGHAI D	
			ART UNIT 3729	PAPER NUMBER

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,044

Applicant(s)

BORLAND ET AL.

Examiner

Donghai D. Nguyen

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/20/03; 2/9/4; 3/9/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11, drawn to a method of making an innerlayer panel, classified in class 29, subclass 841.
 - II. Claims 12-17, drawn to a printed wiring board and innerlayer panel, classified in class 174, subclass 260.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as by identifying the mounting location of at least over fiducial by other technique without using X-ray.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Ms. B. Siegell (Reg. No. 30684) on October 26, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office

Art Unit: 3729

action. Claims 12-17 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A METHOD OF MAKING INNERLAYER PANELS--.

7. The abstract of the disclosure should be revised to read on the method invention. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Art Unit: 3729

9. Claims 1, 2 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by US Patent 6,597,757 to Ida et al.

Regarding claims 1, 2 and 11, Ida et al disclose a method of making an innerlayer panel, comprising: providing a metallic foil (copper foil 54, see Fig. 1); forming at least one fiducial (50) over the foil; forming at least one feature (52) over the foil; applying a dielectric over (pregreg 53) the at least one feature and over the at least one fiducial, thereby embedding the at least one fiducial and the at least one feature (see Fig. 1); and identifying the location of the at least one fiducial using X-rays (10 and 13). Note that the fiducial and feature are formed over the foil but not on a surface of the foil).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ida et al in view of US Patent 5,952,241 to Baker et al.

Regarding claims 3 and 5, Ida et al do not disclose the fiducial comprises tungsten and its thickness. Baker et al teach the fiducial having tungsten for easy to discern by X-ray. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Ida et al by utilizing the tungsten with a desired thickness as taught by Baker et al for making fiducial that easily discerned by X-ray.

Art Unit: 3729

Regarding claim 4, Solder paste is old and well known in the industry. It would have been obvious to one having ordinary skill in the art to have provided the fiducial paste having configuration as cited in claim 4 at the time the invention was made as to form a desired structure, which meets manufacturing requirements.

Limitation of claim 5 is met as the above discussion.

12. Claims 6, 7 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ida et al in view of US Patent 6,631,551 to Bowles et al.

Ida et al do not disclose the firing and curing steps. Bowles et al teach the step of firing and curing the feature (thick film material) on the metallic foil (20) for forming a resistor (16) and/or a capacitor (28 see Figs. 3 and 78 and Abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify invention of Ida et al by applying the teaching of firing and curing the feature as taught by Bowles et al in order to form resistor and capacitor in the circuit board.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ida et al.

It would have been an obvious matter of design choice to one having ordinary skill in the art at the time the invention was made to apply encapsulating layer over the fiducial in addition to apply a dielectric layer, since Applicants have not disclosed applying an encapsulating layer over the fiducial, solved any stated problem or is for a particular purpose and it appears that the invention would perform equally well with only the dielectric layer over the fiducial as taught by Ida et al.

Allowable Subject Matter

14. Claim 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art reference cited for the teaching of making multi-layer PCB.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (571)-272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (571)-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/718,044

Page 7

Art Unit: 3729

DN

November 11, 2005


MINH TRINH
PRIMARY EXAMINER